AD-A099 245 CORPS OF ENGINEERS WALTHAM MA NEW ENGLAND DIV F/G 13/2
ENVIRONMENTAL ASSESSMENT, EMERGENCY DREDGING, GREEN HARBOR, MAS--ETC(U)
APR 77

UNCLASSIFIED NL

PHOTOGRAPH THIS SHEET

AD A099245

DTIC ACCESSION NUMBER

LEVEL

INVENTORY

Corps of Engineers Waltham MA New England Div.
Environmental Assessment Emergency Dredging
GREEN HARBOR, MASSACHUSETTS

DOCUMENT IDENTIFICATION

Apr. 77

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

DISTRIBUTION STATEMENT

ACCESSION FOR		
NTIS	GRA&I	☒
DTIC	TAB	☐
UNANNOUNCED		☐
JUSTIFICATION		
BY		
DISTRIBUTION /	Per ltr. on file	
AVAILABILITY CODES		
DIST	AVAIL AND/OR SPECIAL	
A		

DISTRIBUTION STAMP

DTIC
ELECTE
S MAY 22 1981 D
D

DATE ACCESSIONED

DATE RECEIVED IN DTIC

PHOTOGRAPH THIS SHEET AND RETURN TO DTIC-DDA-2

DTIC FORM OCT 79 70A

DOCUMENT PROCESSING SHEET

ENVIRONMENTAL ASSESSMENT

EMERGENCY DREDGING

GREEN HARBOR, MASSACHUSETTS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

APRIL 1977

ENVIRONMENTAL ASSESSMENT

GREEN HARBOR, MASSACHUSETTS

EMERGENCY DREDGING

SPRING 1977

U.S. Army Engineer Division, New England
Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

APRIL 1977

1.00 PROJECT DESCRIPTION

1.01 Location and General Description. Green Harbor is a small tidal estuary on the west side of Massachusetts Bay, approximately 35 miles by highway southeast of Boston, Massachusetts. It is located within the town of Marshfield in Plymouth County and situated at the mouth of the Green Harbor River, a small stream draining marshlands to the northwest. The Green Harbor marshlands were originally fresh water or brackish marshes whose elevations were lowered due to compression of peat and silt caused by retrograding sand bars, which enabled sea invasion through breaks in the bars. The entrance to Green Harbor is protected by two stone mound jetties having an arrowhead configuration with a navigation opening of about 250 feet at the outer ends. The east jetty is 750 feet long and the west jetty is 1,350 feet long. The jetties have a top width of about five feet, an elevation ranging from about seven to twelve feet, and side slopes varying from one on one to one on four. The harbor extends 3/4 mile inland from the jetty entrance northwesterly, to an earth-concrete dike equipped with tide gates. The dike marks the head of navigation and carries State Route 139 across the harbor.

1.02 Existing Project. The existing Federal project in Green Harbor consists of:

a. A channel 6 feet deep (8 feet at the entrance) and 100 feet wide extending about 4,000 feet from deep water to the head of navigation, with a small turning basin at the upstream limit.

b. A 5-acre anchorage near the Town pier; 6 feet deep.

c. Sealing, partially rebuilding, and extending by 200 feet the existing west jetty at elevation +12, with a dike to beach berm at elevation +14 feet, and raising the east jetty to elevation +14 feet.

1.03 Project Authorization. The following is a summation of the project authorization:

ACTS	WORK AUTHORIZED	DOCUMENTS
July 14, 1960 as amended in 1965	Channel 6 feet deep (8 feet at the entrance) 100 feet wide from deep water to head of navigation; anchorage near Town pier; sealing, rebuilding in part, and extending existing west jetty	Section 107, PL 86-645 Authorized by Chief of Engineers Dec. 15, 1965

1.04 Reason for Emergency Maintenance Dredging. As a result of a hydrographic survey conducted in March 1977 the New England Division determined that emergency maintenance dredging was required in this project. Shoaling has reduced the controlling depth in the entrance channel to 0.6 feet at Mean Low Water. Portions of the 6-foot channel have shoaled to the point of being exposed 7.5 feet in elevation at Mean Low Water. This has left the project virtually unusable by the majority of commerical and recreational vessels based in Green Harbor.

1.05 Benefits to be Provided by the Project-Navigation. The proposed Emergency Maintenance Dredging will provide a channel 6 feet deep by 60 feet wide for the summer boating season. It will reduce the high potential for accidents, groundings and delays due to insufficient depths throughout the project until the total project is maintained during Fiscal Year 1978. Following is a summation of commercial and recreational traffic in Green Harbor for 1974:

Commercial Traffic

Draft Range	Vessel Trips	Commerce (Tons)
4-5	17,236	470
All others	52	256

Recreational

Draft Range	Vessel Trips
4-5	4,200
3-4	5,600
All others	9,500

The 726 tons of commerce for 1975 consisted primarily of fresh fish and shellfish. Adjacent to the project are two marinas, a public launching ramp, a Town dock and a yacht club. In addition, Green Harbor is a base of operations for 21 lobster boats and 3 chartered fishing boats.

1.06 Emergency Maintenance Dredging. Preliminary estimates indicated the need to remove approximately 24,000 cubic yards of sediment from the entrance channel and a small portion of the harbor channel to provide a project 6 feet deep at mean low water by 60 feet wide. The portion of the project to be dredged starts at the seaward end of the jetties and extends approximately 1,300 feet landward to a point 500 feet from the confluence of Cut River. The material will be removed by hydraulic dredge and pumped to a disposal area on land. Refering to Figure 1, two areas, A and B, are being considered as disposal sites, the ultimate decision depending on availability. All material will be placed below MHW. The disposal site is shown in Figure 1, the project location map.

1.07 Previous Maintenance. Maintenance dredging has been performed at Green Harbor in the period between October and December 1969 when

approximately 36,000 cubic yards of material were removed and deposited on land disposal site; during the period between July and October 1973 when approximately 65,700 cubic yards of material were removed and placed on a land disposal site.

CORPS OF ENGINEERS U.S. ARMY

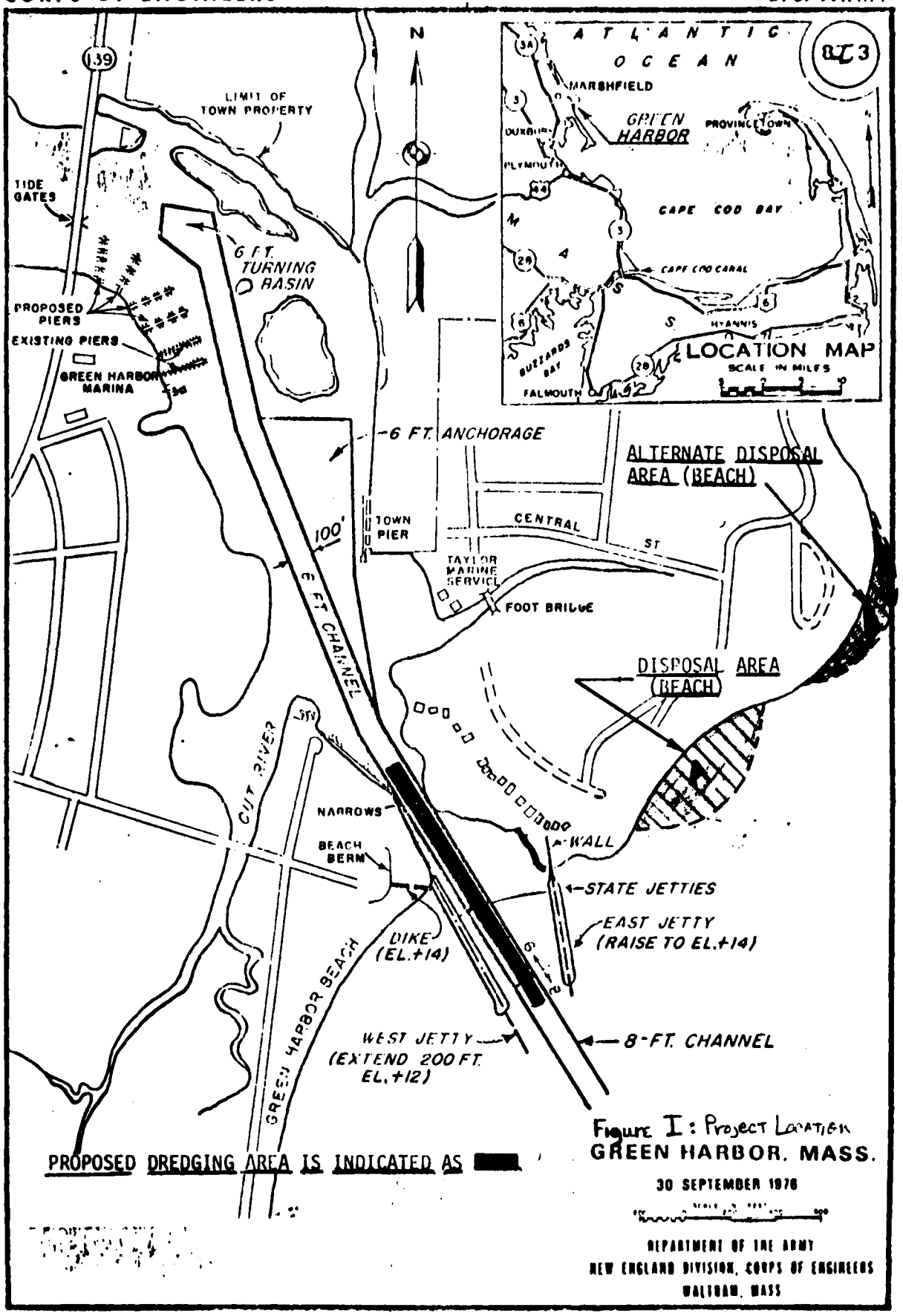


Figure I: Project Location
GREEN HARBOR, MASS.
30 SEPTEMBER 1976

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS

2.00 ENVIRONMENTAL SETTING WITHOUT THE PROJECT

2.01 Tidal Information. The mean tide range at Green Harbor is 9.0 feet.

2.02 Sediment Analysis of the Dredge Site. In July 1976, the Army Corps of Engineers conducted a sediment analysis for Green Harbor. Figure II shows the locations of these samples. Station GE-2 is the only sample taken within the dredging area. Sediments can be described as gray fine sand (See Grain Size Curve - Table I) for beach disposal.

In evaluating the material, the guidelines for Section 404 of the Federal Water Pollution Control Act Amendments of 1972 were applied. In accordance with these guidelines, dredged or fill material may be excluded from chemical-biological testing if it falls within any of the following categories:

a. The dredged or fill material is composed predominantly of sand, gravel, or any other naturally occurring sedimentary material with particle size larger than silt, characteristic of and generally found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels.

b. The dredged or fill material is for beach nourishment or restoration and is composed predominantly of sand, gravel, or shell with particle sizes compatible with material on receiving shores.

c. The material proposed for discharge is substantially the same as the substrate at the proposed disposal site; the site from which the material proposed for discharge is to be taken is sufficiently

removed from sources of pollution to provide reasonable assurance that such material has not been contaminated by such pollution; and adequate terms and conditions are imposed on the discharge of dredged or fill material to provide reasonable assurance that the material proposed for discharge will not be moved by currents or otherwise in a manner that is damaging to the environment outside the disposal site.

The material meets the criteria established for exclusion from chemical-biological testing, however a bulk analysis of the material was performed and is found in Appendix A.

CORPS OF ENGINEERS U.S. ARMY

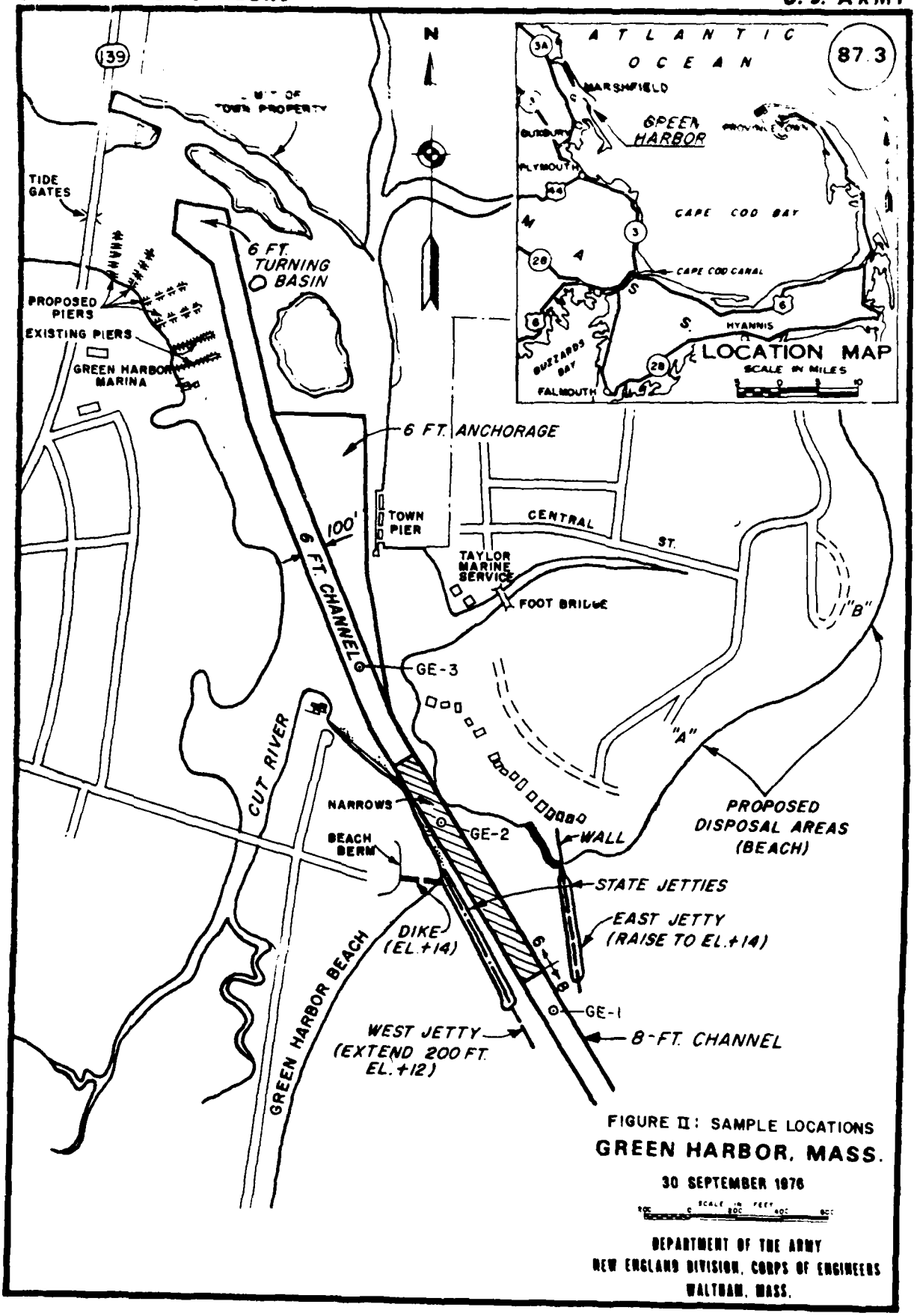


FIGURE II: SAMPLE LOCATIONS

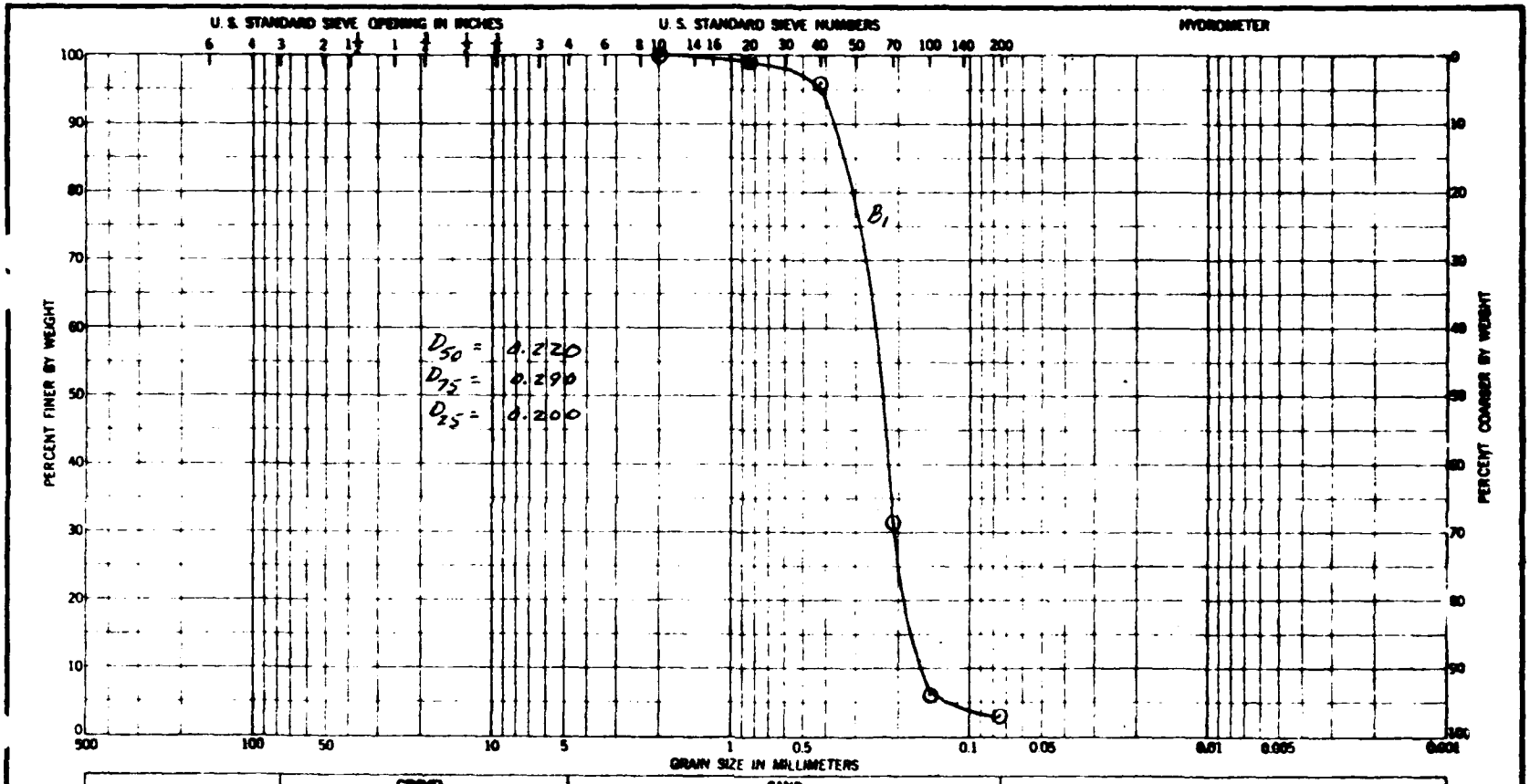
GREEN HARBOR, MASS.

30 SEPTEMBER 1976

SCALE IN FEET

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

TABLE I: VISUAL CLASSIFICATION AND GRAIN SIZE CURVE



Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI
B-1	Surface	Fine SAND (SP)				

GRADATION CURVES

Project: Green Harbor, Marshfield, Mass.
Area:
Boring No. GE-2 (Lab. Sa. No. 100-214-2)
Date: March 1976

ENG FORM 1 MAY 63 2087

BOTTOM SEDIMENT SAMPLE TEST RESULTS

STATUS AS OF 23 JUL 76

[illegible] HARBOR — STATE= MA — TIDAL SYS= 1 — COM/REC= C+R

		01	02	03	04	05	06
LAB SERIAL NO.	(01)	100-214-1	100-214-2	100-214-3	100-214-5	100-214-5	100-214-5
EXPLORATION NO.	(02)	GE-1-76	GE-2-76	GE-3-76	PE-4-76		
SAMPLE NO.	(03)	R-1	R-1	R-1	T-1		
SAMPLE DEPTH (FT)	(04)	SURFACE	SURFACE	SURFACE	0.0-1.3	0.0-0.25	1.0-1.17
LATITUDE	(05)						
LONGITUDE	(06)						
[illegible]=GRID LOC=NORTH	(07)	393,650	394,425	395,520	396,750		
[illegible]=GRID LOC=EAST	(08)	832,325	831,850	831,270	830,950		
SOUNDING	(11)	12.5	9.0	13.4	8.5		
[illegible] SOUNDING	(12)	-3.4	1.8	-4.5	-4.1		
DATE = [illegible]	(13)	6247-1000	6247-1030	6247-1110	6247-1345		
[illegible]	(14)	2	2	2	2		
[illegible] STATE	(15)	1	1	1	1		
[illegible] DISC=BL	(16)	5.7	5.0	5.0	4.4		
[illegible] DISC=GY	(17)	6.5	6.3	6.2	5.6		
VISUAL CLASSIFICATION BY LABORATORY	(20)	GRAY	GRAY	GRAY	BLACK		
	(21)	SILTY	FINE	SILTY	FINE		
	(22)	FINE	SAND [SP]	FINE	SANDY		
	(23)	SAND	W/MARINE	SAND	ORGANIC		
	(24)	[SP-SM]	ODOR	[SP-SC]	SILT [OH]		
	(25)	W/MARINE	AND CLAM	W/MARINE	W/MARINE		
	(26)	ODOR	SHELLS	ODOR	ODOR		
	(27)			AND CLAM			
	(28)			SHELLS			
	(29)						
SOIL CLASS/[illegible]	(32)	S	S	S	M		
SOIL CLASS/[illegible]=GRAIN	(33)	M	M	M	S		
[illegible] SIZE [illegible]=MED	(34)	0.200	0.220	0.220	0.012		
[illegible] SIZE D=[illegible]	(35)	0.270	0.290	0.280	0.050		
[illegible] SIZE D=[illegible]	(36)	0.170	0.200	0.190	0.0045		
[illegible]=(1/2)(D+D)		1.2603	1.2042	1.2140	2.5820		
[illegible]=% FINE	(39)	5.6	3.8	5.1	91.3		
[illegible] SIZE [illegible]	(39)	N	N	N	N		
[illegible] LIMIT	(40)				92		
[illegible] LIMIT	(41)				52		
[illegible] INDEX	(42)				40		
[illegible]	(45)	2.67	2.66	2.67	2.57		
[illegible] (DCF)	(46)				90.0		
[illegible] (DCF)	(47)				37.7		
[illegible]	(48)	75.67	72.92	74.36		35.90	42.33
[illegible]	(49)	7.50	7.25	7.35	7.16		
[illegible]	(50)						

BOTTOM SEDIMENT SAMPLE TEST RESULTS — NOS NEDFORD

STATUS AS OF 23 JUL 76

CHAS3 GREEN HARBOR — STATE= MA — TIDAL SYS= 1 — COM/REC= C+R

			01	02	03	04	05	06
% VOL SOLIDS-EPA		(53)	0.87	0.51	0.73		10.48	8.37
% VOL SOLIDS-NED		(54)	0.60	0.30	0.51		9.45	
% TOT VOL SOL-EPA		(55)	1.96	1.56	2.04		13.8	
% CHEM OXYGEN DEMAND		(56)	0.650	0.249	0.739		12.7	
% TOT KJDL NIT		(57)	0.020	0.012	0.012		0.524	
% HEX SOL-OIL + GRSE		(58)	0.031	0.017	0.012		0.284	
% MERCURY	X10**-5	(59)	0.00	0.00	0.00		2.5	2.6
% LEAD	X10**-3	(60)	1.6	0.00	0.78		12.8	10.9
% ZINC	X10**-3	(61)	2.4	1.5	1.0		17.3	14.2
% PHOSPHORUS	X10**-3	(64)						
% ARSENIC	X10**-3	(65)	0.11	0.07	0.05		0.72	0.69
% ANTIMONY	X10**-3	(66)						
% CADMIUM	X10**-3	(67)	0.00	0.00	0.08		0.33	0.28
% CHROMIUM	X10**-3	(68)	0.79	0.77	0.78		12.3	12.8
% COPPER	X10**-3	(69)	3.4	1.3	0.52		13.9	9.9
% IODINE	X10**-3	(70)						
% NICKEL	X10**-3	(71)	1.3	1.3	1.3		2.8	3.3
% SILVER	X10**-3	(72)						
% TIN	X10**-3	(73)						
% VANADIUM	X10**-3	(74)	0.00	0.00	0.00		5.6	4.7
% CARBON (ORGANIC)		(76)						
% CARBON (CARBONATE)		(77)						
% CARBON (TOTAL)		(78)					2.9	
% HYDROGEN		(79)					0.06	
% NITROGEN		(80)					0.46	
% BENZENE		(81)						
% DDT	X10**-3	(82)					0	
% POLYCHL BIPHX10**-3		(83)					0	
CARBON 14 (YRS)		(84)						
RADIOACTIVITY(MR/HR)		(85)	0	0	0	0		

ALL TESTS, UNLESS OTHERWISE NOTED, WERE PERFORMED IN ACCORDANCE WITH EPA CHEM LAB MANUAL AND ARE BASED ON DRY WEIGHT.

REMARKS= (90)=

(91)=

3.00 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

Environmental impacts of the proposed emergency maintenance dredging are varied. They will occur as a result of physical disruption of benthic and beach communities, exposure of dredged material containing organic material, and sediment introduction into the water. In assessing impacts from the latter a detailed analysis of dredged sediments is needed. In Section 2.2 it was concluded that sediments contained low levels for the parameters studied, with the exception of sub-surface mercury concentrations. Thus, the addition of such materials as organics, nitrogen, and heavy metals will be minimal. This conclusion is substantiated by a recent study by the Corps of Engineers, Vicksburg, Mississippi Waterways Experiment Station. In this report, which was primarily concerned with impacts associated with heavy metal input, it was concluded that, in general, trace metals were released into the water in the sub-parts to parts per billion range. In view of this information, impacts from heavy metals are considered improbable. Because heavy metals are released in such minute quantity, tidal flushing will dilute even further the existing concentration essentially not impacting water quality.

In addition to heavy metals, the Corps study also experimented with the release of nutrients and chlorinated hydrocarbons. Nutrients were released in the ppm's but chlorinated hydrocarbons were undetectable, even after three months. In a study on effects of nutrient release as a result of dredging in the Annisquam River, Martin and Yentsch (1973) concluded, "that within the limits of this study and its analytical

methods, no detectable change could be attributed to the dredging. In attempting to explain this overall finding, perhaps the one most obvious and conspicuous feature was the relatively small volume of sediments disturbed in relation to the very large volume of the water mass involved." It is concluded, therefore, that a phytoplankton bloom which may eventually result in deterioration of water quality is not probable for the same reason. This conclusion is substantiated by Lee et al (1975) and Chen et al (1976).

As a result of sediment disruption organic material will enter the water. However, because organics are not a major constituent of sediment samples (Table I), impacts are expected to be minor. Again, tidal flushing will eliminate any substantial decrease in dissolved oxygen which might occur as a result of organic input feeding esturine biota.

As dredged material will be pumped onto a beach area, a loss will occur among sand burrowing biota such as amphipods. However, this should only be a short-term event, with recolonization occuring rapidly. As spoil will undoubtably contain some organics, a foul hydrogen sulfide odor should be prevalent for a short period of time after exposure. Hydrogen sulfide is a normal end product of anaerobic decomposition which occurs in marine sediment, however, once the sediments are exposed to air and high tides, hydrogen sulfide will be gradually terminated as an aerobic population of decomposers is established or these materials are washed away.

Because dredged material will not be isolated from surrounding marine water (below Mean High Water) certain materials are expected to

reenter the marine environment. According to a study by Windom (1972) on the effects of hydrologic dredging on water quality, ammonia is the constituent released to the greatest extent. A large increase in ammonia brings about a rapid increase in phytoplankton and benthic algae communities. A large phytoplankton bloom is not expected though as dilution will eliminate any potential problem. As ammonia is derived from certain organics, proteins, and the dredged material is relatively low in organics, this impact should be minor.

As dredging activities will proceed seven days a week, 24 hours a day, noise will become a definite environmental impact. However, emergency dredging will only occur over a short period of time, Thus, this noise will only be a short-term impact.

4.00 RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS

The proposed dredging will not alter the present use of lands surrounding the Harbor. Adjacent lands have already been dedicated to water related activity, such as waterborne commerce and recreational boating. Emergency maintenance dredging is in keeping with these activities and will serve to preserve them.

5.00 ADVERSE ENVIRONMENTAL IMPACTS THAT CANNOT BE AVOIDED

Emergency Maintenance Dredging. The adverse environmental impacts of the emergency maintenance dredging are primarily limited to increases in turbidity and losses of benthic organisms at the dredging site. These impacts are considered minimal. Also associated with sediment disruption will be an increase, although minor, in various qualitative water quality parameters. These include organics, heavy metals, and nutrients. As organics comprise a very small portion of dredged material, adverse effects should be minor. Tidal flushing and dilution will eliminate any concentration of organics and other compounds from causing any major impacts.

6.00 ALTERNATIVES TO THE PROPOSED ACTION

6.01 No. Action.

6.02 Beneficial Aspects of No Action. The expected adverse environmental impact of the proposed action is minimal; therefore, there are no applicable beneficial environmental aspects to the no action alternative.

6.03 Adverse Impacts of No Action. Failure to maintain the Green Harbor navigation project would allow shoaling to continue unabated, thus ending the usefulness of the project. Reduced depths would perpetuate groundings and potentially serious accidents. Long range effects include increased costs to the local fishing fleet due to tidal delays, and ultimately, the deterioration of marine facilities along the waterfront as the Harbor becomes useless as a base of operations for marine activities.

6.04 Rejection Reasoning of No Action. Adverse impacts of the no action alternative outweigh the beneficial aspects in terms of overall public interest. Without dredging, commercial and recreational boating activity in Green Harbor will be eliminated.

6.05 Alternative Dredging Methods. In the New England area four methods are available for the dredging of harbors and waterways: hopper dredge, bucket dredge, sidecaster and hydraulic dredge. The last method,used when material is to be disposed at a nearby onshore site, is the one to be employed when the project is dredged this spring. Sidecaster dredging is primarily used to remove offshore sand bars which develop across entrance channels. The volume of material to be dredged and the configuration of the harbor entrance makes the project impractical for a sidecaster dredge.

A hopper dredge is a self-contained unit capable of dredging loose material while underway. Dredging is done by dragging a suction-pipe (centrifugal pump) from 12" to 34" diameter at the end of which is fitted a heavy casting termed a "drag." The drag is provided with a grated opening on the underface through which shoal material is sucked together with water as the drag is pulled along the bottom. The dredges are equipped with two drags, one on either side of the ship. The drags may be used simultaneously or individually. The hopper capacity can vary anywhere from 700 to 8,000 cubic yards depending on the vessel size. Hopper dredges do not employ revolving cutter heads. The advantage of this type of dredge over the bucket dredge is that scows are not needed as the material is contained within the dredge.

A bucket dredge as its name implies uses a large bucket to remove the material and load it on scows or barges. As opposed to the hopper dredge, the bucket dredge remains stationary while operating. The environmental impacts on both methods are similar: increased turbidity, disruption of the benthos and burial at the dumping grounds. A bucket dredge may be used for maintaining Green Harbor when the entire project is dredged in FY78.

6.06 Other Disposal Areas. Alternative disposal sites were not investigated because of time contraints associated with developing an emergency dredging project. However, the A and B sites are environmentally sound and the dredged material is suitable for beach nourishment.

6.07 Beach Nourishment. Since the material is clean and is considered suitable for beach nourishment, its placement on the beach makes it both environmentally sound and acceptable over open water and inland disposal. The close proximity of the beach to the dredging area makes it ideal for the placement of material as well as the material providing the existing beach with a higher elevation, thus protecting it from erosion due to continued wave action.

7.00 ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Dredging at Green Harbor involves an irretrievable commitment of a natural resource in the destruction of benthic biota at the dredging and disposal site. This loss is not considered irreversible since recolonization of disturbed areas is known to begin shortly after cessation of the disturbance.

The only major resources to be expended would be the material. labor and financial resources spent to complete the emergency maintenance dredging.

8.00 COORDINATION

This emergency project was coordinated with EPA, Fish and Wildlife Service, National Marine Fisheries Service and State Division of Waterways. A field investigation was performed by biologists from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Division of Marine Fisheries. No problems were encountered during the review, and the attached correspondence indicates no long term environmental effect on resources was noted.

CONCLUSIONS

Upon evaluating the information presented in this Environmental Assessment Report it is my belief that hydraulic emergency maintenance dredging of the portions of Green Harbor Channel indicated is in the best public interest.

Hydraulic pipeline dredging is the best operationally suitable method because of the volume of material to be dredged and that this material will be placed on land. Except for small temporary water quality effects, it has been determined that adverse environmental impacts will be minimal. Two major points lead to this determination; dredged material is primarily clean sand, thus eliminating a potential source of toxic material, organics, etc., into the water. Furthermore, dredged material is also particularly suitable for beach disposal as it matches closely existing sand.

In my evaluation this assessment has been prepared in accordance with the National Evnironmental Policy Act of 1969 and will be coordinated with appropriate regulatory agencies. Based on the scheduling of the actual work and previous monitoring investigations it appears that the dredging can be conducted with subsequent minimization of environmental impacts. The assessment therefore precludes the need for preparation of a formal Environmental Impact Statement.

5 April 1977
(Date)

JOHN P. CHANDLER
Colonel, Corps of Engineers
Division Engineer

REFERENCES

Chen et al, 1976. Research Study on the Effect of Dispersion, Settling, and Resedimentation on Migration of Chemical Constituents During Open-Water Disposal of Dredged Materials Report to the Environmental Effects Laboratory, U.S.A. & Waterways Experiment Station.

Lee et al, 1976. Research study for the Development of Dredged Material Disposal Criteria. Report to the Environmental Effects Laboratory, U.S. A. & Waterways Experiment Station.

Martin, C. and Yentsch, C.S., 1973. Evaluation of the Effect of Dredging in the Annisquam River Waterway on Nutrient Chemistry of Seawater and Sediments and on Phytoplankton Growth. Final Report to the U.S. Army Corps of Engineers, Marine Station, University of Massachusetts, Gloucester, Massachusetts.

Windom, H.L., 1972. Processes Responsible for Water Quality Changes During Pipeline Dredging in Marine Environments. Skidaway Institute of Oceanography, Savannah, Georgia.

The Commonwealth of Massachusetts

EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGR.
DIVISION OF WATERWAYS

100 Nashua Street, Boston 02114

April 8, 1977

Mr. V. L. Andreliunas, Chief
Operations Division
Department of the Army
N.E. Division, Corps of Engineers
424 Trapelo Road
Waltham, Mass. 02154

Attn: Mr. Paul Jendzejac

Dear Mr. Andreliunas:

This letter is in reply to your letter dated March 25, 1977 concerning the proposed dredging of Green Harbor River at Marshfield, Mass. and the proposal for an alternate disposal site.

We have reviewed the matter and discussed with Coastal Zone Management the impacts of the alternate site.

We find no objections and accordingly approve the change.

Very truly yours,

John J. Hannon

JOHN J. HANNON, P.E.
CHIEF ENGINEER

JJH:eh
cc: Commr. David Standley
Mr. Lester Smith

18

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Concord Field Office
P. O. Box 1518
55 Pleasant Street
Concord, NH 03301

March 29, 1977

Division Engineer
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

A copy of our report on the Green Harbor, Massachusetts, emergency dredging project is attached.

Sincerely yours,

Edwin H. Robinson
Acting Field Supervisor, CFO

Attachment

GREEN HARBOR, MASSACHUSETTS

Report of the U. S. Fish and Wildlife Service on a plan being developed for emergency maintenance of the seaward portion of the Federal Channel.

March 29, 1977

We understand that maintenance of the outer channel is considered necessary to permit use by boats during this summer. The work is planned for June 15 through July 1, 1977, and is not intended to supersede the plans for a complete dredging of Green Harbor in Fiscal Year 1978.

The project was authorized in December 1965. The proposed work will be reviewed under the provisions of Section 313 and 404 of the Federal Water Pollution Control Act. This report is prepared under provision of the Fish and Wildlife Coordination Act in coordination with the Massachusetts Division of Marine Fisheries and the National Marine Fisheries Service. It responds to a letter from the U. S. Army Corps of Engineers dated March 10, 1977, and to Public Notice NEDOD-N dated March 15, 1977.

We understand that extensive shoaling to one foot at Mean Low Water in the entrance channel requires that this project be undertaken. The Federal project at Green Harbor consists of a channel 8 feet below Mean Low Water at the entrance and a channel 6 feet deep and 100 feet wide extending 4,000 feet from deep water toward the small turning basin and five-acre anchorage. It is expected that about 15,000 cubic yards of fine silty sand will be removed from about 1,300 feet of channel between the seaward ends of the jetties and a point about 500 feet from the confluence of the Cut River.

A hydraulic dredge, working for seven days a week and around the clock, will pump the sand to either:

(1) A beach located northeast of the east jetty and extending about 1,500 feet, or

(2) A rocky point adjacent to the beach and extending northeastward for about 1,000 feet.

On March 28, 1977, biologists from this Service, the Massachusetts Division of Marine Fisheries, and the National Marine Fisheries Service inspected the project area. Substrates in the fill area consist of fine beach sand with some rocks at (1) and boulders to ledges at (2). This rocky point appeared to be somewhat more productive of living organisms than did the sand beach.

We have no objections to the plans for dredging. We have no objection to depositing the spoil material upon the beach area. While we would not object to use of the rocky point, it is a less desirable spoil site.

Edwin H. Robinson

Edwin H. Robinson
Acting Field Supervisor, CFO

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Federal Building, 14 Elm Street
Gloucester, Massachusetts 01930

April 1, 1977

Col. John P. Chandler
Division Engineer
Department of the Army
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Colonel Chandler:

This is in reference to Public Notice No. NEDOD-N, dated March 15, 1977, and to your letters of March 10 and March 25, 1977, concerning an emergency maintenance dredging project at Green Harbor, Marshfield, Massachusetts.

Project plans call for removal of approximately 15,000 cubic yards of fine silty sand from the entrance channel and a small portion of the harbor channel. Dredged material will be removed by a hydraulic pipeline dredge and pumped either onto a sandy beach northeast of the east jetty or onto a rocky point adjacent to the sandy beach and extending further northeast.

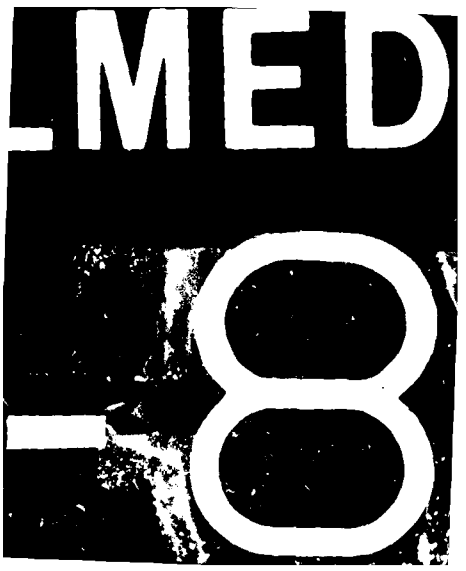
We have no objection to the dredging operation or to the use of either disposal site for the placement of spoil. However, inasmuch as any spoil material placed on the rocky point is apt to rapidly erode, we would prefer that the dredged material be disposed of on the sandy beach area.

Please keep us informed as to your final decision on the location of the spoil material.

Sincerely, Marvin F. Bowne

William G. Gordon
Regional Director

21


MED
8